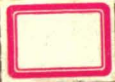


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UNITED STATES DEPARTMENT OF AGRICULTURE

## FOREST SERVICE

PACIFIC NORTHWEST FOREST EXPERIMENT STATION

FOREST STATISTICS FOR FERRY COUNTY, WASHINGTON.

By

Edward D. Buell.



CALIFORNIA FOREST AND RANGE  
EXPERIMENT STATION  
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UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
PACIFIC NORTHWEST FOREST EXPERIMENT STATION



ADDRESS REPLY TO  
DIRECTOR  
AND REFER TO



424 U. S. COURT HOUSE,  
MAIN AND SIXTH STREETS,  
PORTLAND, OREGON

R-NW  
Forest Survey  
County Statistics

April 21, 1937

Director,  
California Forest Experiment Station,  
332 Giannini Hall,  
Berkeley, Calif.

99.54  
F762P  
no. 59

Dear Mr. Kotok:

A copy of "Forest Statistics for Ferry County, Washington", the thirteenth of a series of Forest Survey mimeographed reports for eastern Washington and eastern Oregon, is enclosed for your files. The explanatory text, "The Forest Survey of Eastern Oregon and Eastern Washington", which accompanied the first report, should be referred to for detailed type descriptions and methods of survey procedure.

Previously forest statistics have been released for all counties in western Oregon and western Washington; for Klamath, Wasco, Jefferson, Harney, Lake, and Deschutes Counties in eastern Oregon, and for Yakima, Klickitat, Chelan, Kittitas, Okanogan, and Walla Walla, Columbia, Garfield, and Asotin Counties in eastern Washington. Additional copies of these reports are available for distribution.

Very truly yours,

THORNTON T. MUNGER, Director

By *Donald N. Matthews*  
Acting

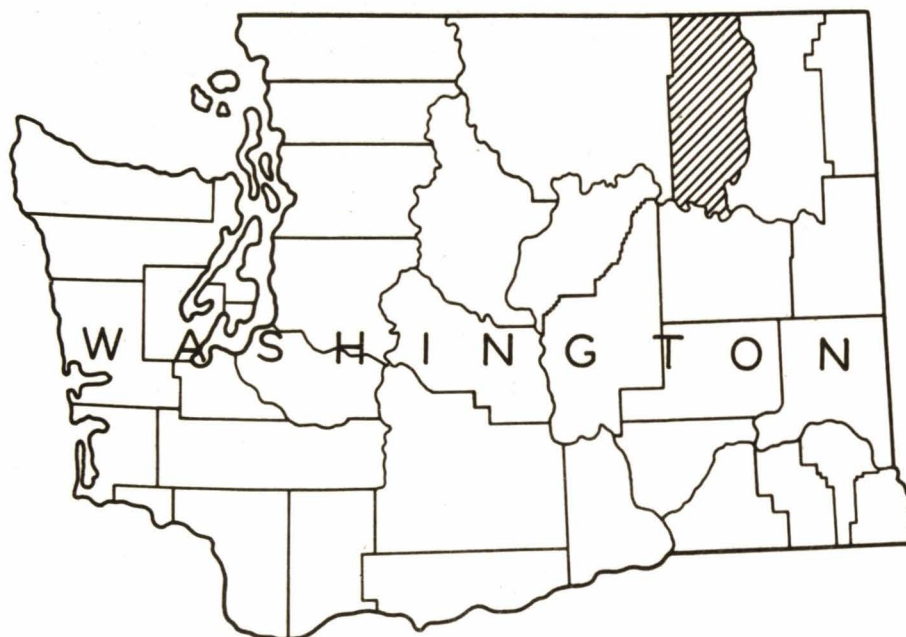
Enclosure

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EXPERIMENT STATION  
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# FOREST STATISTICS FOR FERRY COUNTY, WASHINGTON

FROM THE INVENTORY PHASE OF THE FOREST SURVEY

*Forest Survey report no. 597*



U. S. DEPARTMENT OF AGRICULTURE      FOREST SERVICE  
PACIFIC NORTHWEST FOREST EXPERIMENT STATION  
THORNTON T. MUNGER, DIRECTOR

H. J. ANDREWS, IN CHARGE OF FOREST SURVEY      R. W. COWLIN, ASSISTANT  
EDWARD D. BUELL IN CHARGE OF FIELD AND OFFICE WORK  
IN FERRY COUNTY

PORTLAND, OREGON

APRIL 15, 1937





FIGURE 1

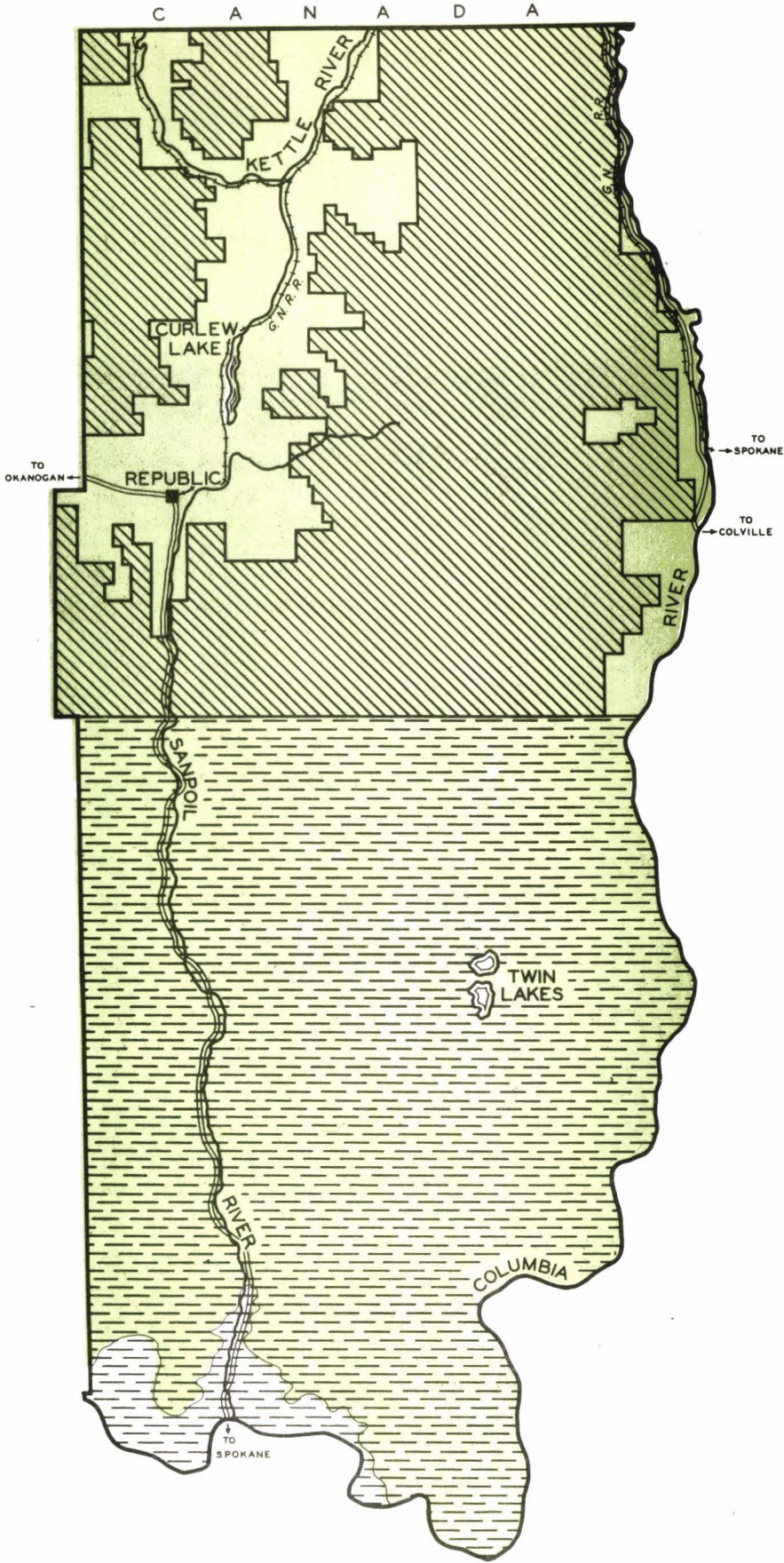
OUTLINE MAP  
OF  
**FERRY COUNTY**  
WASHINGTON

1937



LEGEND

-  FOREST ZONE
-  NONFOREST ZONE
-  COLVILLE NATIONAL FOREST
-  COLVILLE INDIAN RESERVATION



# FOREST STATISTICS FOR FERRY COUNTY, WASHINGTON

By Edward D. Buell<sup>1/</sup>

Ferry County, one of the most completely forested counties in eastern Washington, lies north of the Big Bend country of the Upper Columbia River. Its mountainous topography consists of two well defined spurs of the Colville Mountains, a part of the northern Rocky Mountain system. The county's forests, agriculture, and mineral deposits are its chief resources and future economic development must depend on them.

This is the initial report of a survey of Ferry County made during 1935 by the Forest Service as part of a national study of forest resources.<sup>2/</sup> The statistics of the forest inventory of Ferry County are presented in four tables and four figures. An explanatory text, "The Forest Survey of Eastern Oregon and Eastern Washington", containing detailed definitions of the forest types recognized and a description of the methods used in the inventory should be read in connection with this report.

## Location and Description of County

Located in the north-central part of eastern Washington, Ferry County extends south from the international border approximately 80 miles to the Columbia River and from the San Poil-Okanogan Divide east about 35 miles to the Kettle River (figure 1). It has a total land area of 1,431,155 acres.

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1/ THE FIELD AND OFFICE WORK OF THE FOREST SURVEY OF FERRY COUNTY WAS DONE BY EDWARD D. BUELL, P. N. PRATT, W. E. SANKELA, W. E. PELTO, C. S. SMITH, R. W. COX, L. E. TUCKER, H. M. WOLFE, M. J. LAURIDSEN, A. W. HODGMAN, C. DE WOLFE, C. E. BROWN, B. P. BENNETT, R. S. STEADMAN, AND H. H. ARMSTRONG.

2/ OREGON AND WASHINGTON WERE DIVIDED FOR PURPOSES OF THE SURVEY INTO TWO REGIONS, (1) THE DOUGLAS FIR REGION, CONSISTING OF THAT PART OF BOTH STATES WEST OF THE SUMMIT OF THE CASCADE RANGE, AND (2) EASTERN OREGON AND EASTERN WASHINGTON, THAT PART OF BOTH STATES EAST OF THE SUMMIT OF THE CASCADE RANGE. EACH REGION WAS DIVIDED INTO FOREST SURVEY UNITS COMPOSED OF ONE OR MORE COUNTIES. AT A LATER DATE A REPORT WILL BE ISSUED FOR EACH SURVEY UNIT PRESENTING A TEXTUAL DESCRIPTION OF THE UNIT, DETAILED INVENTORY SUMMARIES, AND STATISTICS OF GROWTH AND DEPLETION ANALYZED IN THE LIGHT OF THE INVENTORY. A REGIONAL REPORT WILL ALSO BE ISSUED WHICH WILL PRESENT AND DISCUSS FINDINGS FOR THE REGION AS A WHOLE. THE REGIONAL REPORT WILL INCLUDE AN INTERPRETATION OF THE FOREST SURVEY DATA AS RELATED TO OTHER ECONOMIC DATA AND A COMPREHENSIVE ANALYSIS OF THE REGIONAL FOREST SITUATION FROM BOTH A PHYSICAL AND AN ECONOMIC STANDPOINT.

Spreading over mountainous terrain, the county has very little level land. Its mountains extend in a north and south direction and consist of distinct spurs separated through the central part of the county by the San Poil River and Curlew Creek. These streams head within a short distance of each other about 5 miles north of Republic with the former flowing south to enter the Columbia River at Keller Ferry and the latter flowing north to enter the Kettle River at Curlew. From the Kettle and Columbia Rivers along the eastern boundary of the county the mountains rise rapidly to culminate in a series of peaks, several of which are over 7,000 feet high. This backbone which extends the full length of the county is considerably more rugged than other parts of the county. The lower mountains both in eastern and western parts of the county are generally rolling. Travel across secondary drainages is made difficult by bluffs, rock breaks, slide rock, and cliffs but by following ridges most of the mountainous area is accessible. Elevation within the county ranges from less than 1,000 feet along the Columbia River to 7,142 feet at the top of Copper Butte.

The north half of the county is drained by the Kettle River which flows easterly near the northern boundary of the county, crossing and recrossing the international border until turning south near Laurier it forms part of the east boundary of the county and enters the Columbia River one and one-half miles above Kettle Falls. The south half of the county is drained either by the San Poil River or directly toward the Columbia.

While precipitation varies considerably within the county, it is sufficient to maintain some type of forest growth over all but a small area in the extreme south portion where a few thousand acres of open grass land occurs. According to the U. S. Weather Bureau, the mean annual rainfall for the period 1900 to the present at Republic is 15 inches and at points adjacent to the eastern edge of the county is somewhat more. There are no weather stations at the higher elevations but undoubtedly the annual precipitation in the mountains is two or three times that of the lowlands.

Owing to the seasonal character of the rainfall irrigation is desirable during the dry summer months. However, little has been done in the way of development at present. A few small individual projects are in operation but dry farming is the general rule. According to the Bureau of the Census only about 2,000 acres of crop land was irrigated during 1934. The possibility of any large scale project is remote for the topography of the agricultural sections of the county is not suited to such projects. Cooperation between groups of individuals in constructing and maintaining small developments may gradually add more land to that now irrigated.

The Great Northern Railroad furnishes the rail transportation for the county. A spur line over which is maintained tri-weekly freight service connects Republic with the Canadian Pacific system at Grand Forks, B. C. Another branch extends along the Kettle River, entering the county at Laurier and leaving it near Marcus, which gives daily passenger and freight service to people located in the northeast portion of the county. Highway development consists of surfaced roads connecting Republic with Tonasket, Keller Ferry, and Canada and of a highway that extends along the Kettle River connecting Canada and the Inland Empire. A surfaced road is now being built that will connect Republic with Kettle Falls. The secondary road system is very well developed, reaching all parts of the county.

The population of Ferry County in 1930 was 4,292 according to the Bureau of the Census. This population was classed as all rural. Republic, the county seat and the only incorporated place in the county, had 710 inhabitants in 1930.

#### Agricultural Development and Mining

According to the Bureau of the Census 174,000 acres or 12.2 percent of Ferry County is in farms, but only about 32,000 acres or 2 percent is classified as crop land. The remainder is used as pasture land and consists of woodlots, open grass land, stump pastures, etc. Agricultural development is confined almost entirely to the main valleys. Hay, small grains, and fruit are the chief crops.

Stock raising is important in the county. The 1935 census placed the cattle population at 13,000 and the sheep at 8,500. Considerable winter feeding is necessary; during the spring the animals graze on pasture land adjacent to the crop land; in the summer they are taken to the forest ranges at the higher elevations.

Important mining activity began in the county in 1896 when the boundary of the Colville Indian Reservation was changed to its present location. Prior to that time all of the county had been within the reservation and Federal regulations prohibited staking of claims on Indian land. For some time Republic, Curlew, Toroda, and other places were active mining towns. However, many of the mines later became unprofitable and were closed. Several of the smaller places became "ghost" towns. At present except for some activity at Republic and prospecting here and there, little mining is in progress.

#### Forest Land and Cover Types

Ferry County's forest land, which amounts to 1,285,450 acres, was classified by the Forest Survey into 26 cover types.

Data concerning forest-type areas together with data on nonforest land (types 1 and 2) are presented in tables 2 and 3 and figures 3 and 4. Forest cover extends over the entire county except for a small treeless area in the extreme south portion and areas used for agricultural purposes. The nonforest land in the county amounts to approximately 10 percent of the total area. The inch-to-the-mile forest type map of the county<sup>3/</sup> shows that the forest zone (figure 1) is divided into two main parts; one dominated by ponderosa pine and one dominated by other conifers, principally Douglas fir and western larch.

Stands in which ponderosa pine is the key species occur in an uninterrupted body in the south portion of the county and extend north up the valleys of the San Poil and Kettle Rivers well into the north half. The area occupied by these stands, roughly horseshoe shaped, amounts to 53 percent of the total forest land and contains by far the most valuable timber in the county. On over 90 percent of the area occupied by ponderosa pine types, the stands are of saw-timber character.

Timber stands made up of Douglas fir, western larch, Engelmann spruce, lodgepole pine, and other conifers are found chiefly in the northern part of the county and at the higher elevations in the mountains between the Kettle and the San Poil Rivers. A number of types are found over this area; the more important ones being the upper-slope mixture, the Douglas fir, and the lodgepole pine. Due to the large fires that have burned over much of the area above the pine zone in recent decades nearly half the timber stands found there are below sawlog size.

#### Saw-Timber Types

This group comprises all the forest types in the county in which the timber is of commercial character and most of the volume is in trees 12 inches or more in diameter. There are 11 such types extending over 886,000 acres, 70 percent of the county's forest land. Two of the group, western red cedar poles (type 19A), and lodgepole pine, large (type 25), are unimportant. Type 19A was once much more extensive but continuous exploitation and devastating fires have so depleted it that now only a small acreage remains. Of the 9 remaining types, 5 are dominated by ponderosa pine.

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<sup>3/</sup> MAPS ON INCH-TO-THE-MILE SCALE SHOWING THE LOCATION OF THE INTEGRAL AREAS COMPOSING THE 26 TYPES RECOGNIZED IN FERRY COUNTY WERE PREPARED IN CONNECTION WITH THE FOREST INVENTORY. THIS INFORMATION HAS ALSO BEEN INCORPORATED IN A LITHOGRAPHED MAP, SCALE  $\frac{1}{4}$  INCH TO THE MILE, OF THE NORTHEAST QUARTER OF WASHINGTON. COPIES OF THESE MAPS MAY BE PROCURED FROM THE PACIFIC NORTHWEST FOREST EXPERIMENT STATION, 424 U. S. COURT HOUSE, PORTLAND, OREGON.

Types in which the key species is ponderosa pine occupy 69 percent of the saw-timber type area. Pure ponderosa pine (type 20.5) is the most important type in the county. It is found mostly in the accessible locations and is limited almost entirely to the south half of the county. While the trees within the type are short, they are sound, clear of limbs, and of good quality. Defect reduces the gross volume by from 7 to 10 percent. Stands vary from 3,000 to 20,000 board feet per acre with an average of probably about 6,000 board feet. Ponderosa pine (type 20), the type of second importance in the pine group, occurs in general in the same parts of the county as does type 20.5. However, it extends further to the north and higher into the mountains. Douglas fir and western larch are the common associates of ponderosa pine in this type. Pine mixture (type 27) usually occurs in smaller bodies than do types 20.5 and 20. The stands in this type usually consist of ponderosa pine, Douglas fir, western larch, white fir, and occasionally a small amount of lodgepole pine. Type 27 is found chiefly in a transition zone between stands in which ponderosa pine makes up 50 percent or more of the volume and stands in which no ponderosa pine is found. It is the least important of the three major pine types.

Ponderosa pine, small (type 21), in Ferry County is about two-thirds the result of fire and one-third the result of logging. This type is concentrated in a narrow belt bordering the Columbia and Kettle Rivers in the extreme east portion of the county. However, a few small areas are found in the San Poil Valley. The volume per acre in type 21 ranges from 1,000 to 5,000 board feet.

Ponderosa pine, woodland (type 5 $\frac{1}{2}$ ), the least important of the pine types, occupies about 40,000 acres of forest land which is adjacent mostly to the nonforest zone in the southern part of the county. The trees comprising the type are usually of commercial character but because of the low volume per acre, 250 to 2,000 board feet, they have little economic value.

Of the remaining 275,000 acres of saw-timber types, 164,000 acres is occupied by the upper-slope mixture type (No. 27 $\frac{1}{2}$ ). This type predominates in the north portion of the county and at high elevations. Western larch is the most abundant species in the type. On 109,000 acres this tree makes up 50 percent or more of the volume of the stands and it is also nearly always found as an associate when the type is dominated by some other species or when it is so heterogeneous that no one species outranks the others. Douglas fir is the species of second importance in type 27 $\frac{1}{2}$  and it nearly always makes up part of the volume in the type. Other species commonly found are Engelmann spruce, lodgepole pine, and white fir. The remaining saw-log types in Ferry County are predominately Douglas fir and are three in number, namely, Douglas fir, small old growth (type 7), Douglas fir, large second growth (type 8), and Douglas fir, large poles (type 9A).

These types, found mostly in the north half of the county, are intermingled with the upper-slope type. Western larch is the most common associate of Douglas fir in all three types. Both the Douglas fir and the upper-slope mixture types occur, in general, over areas less accessible than do the ponderosa pine types. Because of this and the low stumpage value of the species, these types are at present more valuable for watershed protection and recreational purposes than for commercial use.

#### Immature Types

These types occur on approximately 290,000 acres in the county. Of this amount about 233,000 acres are occupied by types that are the result of fire and 57,000 acres by types resulting from logging.

Immature ponderosa pine and pine mixture types (types 22 and 28) cover 53,000 acres of forest land and are located chiefly in the extreme east portion of the county. Stocking conditions are satisfactory over most of the area as about 90 percent is medium stocked or better.

Immature stands other than pine consist of two Douglas fir types, small poles (type 9B) and seedlings and saplings (type 10), cedar poles, small (type 19B), upper-slope mixture, small (type 28<sup>1</sup>/<sub>2</sub>), and lodgepole pine, medium and small (types 26 and 26A). Of the 237,000 acres occupied by these types all but 19,000 acres have resulted from fire. These types occur mostly at high elevations and usually in bodies of large size. Directly east of the summit of the mountains lying between Republic and Kettle Falls are located bodies of the small lodgepole and upper-slope mixture types covering several thousand acres. These are the direct result of two quite recent fires known as the Seventeen Mile Creek fire which occurred in 1926 and the Dollar Mountain fire of 1929. The immature Douglas fir types do not occur in as large bodies as the small lodgepole pine and upper-slope mixture types nor is their aggregate area as great. Stocking conditions over most of the area comprising all these are very good.

#### Other Forest Types

The remaining forest types in the county are hardwoods occupying 1,500 acres, subalpine and noncommercial rocky areas occupying 77,000 acres, and nonstocked cutovers and deforested burns amounting to 30,000 acres. Of this group the noncommercial forest land, that is, land incapable of producing commercial forest stands, is found mostly at the highest elevations and has considerable protection and recreational value. The nonstocked area though quite large is mostly the result of a 1934 fire and therefore did not have time to restock by the summer of 1935 when forest survey field work was in progress.

## Productive Capacity of Forest Land

A classification of the forest land of Ferry County according to its capacity to produce timber crops is shown in table 4. Excepting the lodgepole pine, noncommercial rocky areas, subalpine, and hardwood sites, all forest land was rated on the basis of its capacity to produce either ponderosa pine or Douglas fir. It will be noted that the area classified as lodgepole pine site amounts to nearly 80,000 acres less than the amount of lodgepole pine type areas that occur in the county. Lodgepole pine is often the first species to restock an area after a fire even when the area has a productive capacity that should be assigned either a ponderosa pine or Douglas fir site quality. Therefore, areas covered by lodgepole pine types were given their proper site designation rather than classified on the basis of their present cover. Of the total 1,285,450 acres classified as to site, 53 percent was ponderosa pine, 40 percent was Douglas fir, and 7 percent was of noncommercial character. Both the ponderosa pine and Douglas fir site areas average a low site quality class IV. This productive capacity of forest land in the county is somewhat below that ordinarily found throughout eastern Washington and Oregon.

## Saw-Timber Volume

The total saw-timber volume of Ferry County is 4 3/4 billion board feet. The species distribution of this volume is shown in table 1 and figure 2. Ponderosa pine constitutes the most volume, amounting to nearly half the total, while Douglas fir and western larch take second and third place, respectively.

The total volume of Douglas fir saw timber is large in proportion to the area of Douglas fir saw-timber types because Douglas fir timber of commercial character is found in many other saw-timber types such as the pine mixture and upper-slope types.

The volume of western larch, Engelmann spruce, and white fir is chiefly on areas classified as upper-slope type. Other associate species in this type that contribute slightly to the total volume of the county are lodgepole pine, white fir, and western red cedar. The ponderosa pine volume in the county is more accessible than that found in the other species. The topography of the county indicates that when the timber is cut it will be transported to the Columbia River and marketed in the Inland Empire. Some of the ponderosa pine volume and the large majority of the volume of Douglas fir, western larch, and other species is so located that profitable utilization is impossible at the present time.

## Forest Ownership

Approximately half the forest land and slightly over half the saw-timber volume of Ferry County is in Indian ownership and lies within the Colville Indian Reservation. A significant point about

the forest resources in Indian ownership is that over 70 percent of the ponderosa pine of the county, both as to type area and saw-timber volume, is in this class. The Federal Government is the second largest owner of forest resources in the county with  $1\frac{1}{2}$  billion board feet of timber and nearly  $\frac{1}{2}$  million acres of forest land which is practically all within the Colville National Forest. Douglas fir and western larch make up the bulk of the volume in this ownership class. Forest land and saw-timber volume in private, State, and county ownerships are of less importance in Ferry County than in most of the timbered counties in eastern Washington.

The area of alienated forest land is not large either in the Colville Indian Reservation or in the Colville National Forest.

#### Forest Use

The forest industrial development of Ferry County is limited at present to small woods operations and little mills that have capacities of from 10 thousand to 30 thousand board feet per 8-hour shift. Local people own and operate these activities. Horses and tractors are used in the woods and the logs are transported to the mills by trucks. Most of the lumber manufactured in the county is used locally. With the completion of the Grand Coulee dam, water transportation facilities for logs will be greatly increased. This may encourage the establishment of larger mills at some point near the Spokane market to which Ferry County timber may be brought.

From 1921 to 1930 timber sale operations were active within the portion of the Colville National Forest located in Ferry County. The volume of timber cut during that period was approximately double that cut in previous decades. Most of the timber sales were small but one located on Sherman Creek in the east portion of the county amounted to 67 million board feet. Timber sales have become less active in recent years.

Cedar poles have been cut from along the streams in the eastern part of the county for many years. This industry became very active when truck transportation developed to a point where the poles could be hauled to places in the nonforested section of the State. There still remains a heavy demand for cedar poles but the supply is now very limited and the quality of the cedar that is still uncut is poor.

The hewed tie business, which was an important industry some years ago, practically ceased when the Great Northern Railroad started using sawn ties in preference to hewn ties. Recently the Great Northern Railroad is becoming interested in the use of western larch as a source of tie material and has made application to the Forest Service for an unlimited supply of this species, so it seems possible that the sawed tie business may become important in the county.

The grazing resources of the forest land in the county are utilized by both cattle and sheep. In 1936, 2,500 cattle and 19,500 sheep were grazed within that portion of the Colville National Forest situated in Ferry County. Other cattle and sheep were grazed outside the national forest on private land and on the Colville Indian Reservation. About half the sheep grazed in the county during the summer are brought in from other sections of the State.

Watershed protection and recreational use are two other valuable assets of the county's forests. Fall hunting brings many sportsmen to the county where they find big game plentiful. According to the 1937 deer census taken by the U. S. Forest Service, there are over 6,000 deer ranging on national forest land alone.

The future development of the section to be irrigated below the Grand Coulee dam may bring increased use of the forest resources of the county.

FOREST STATISTICS FOR FERRY COUNTY, WASHINGTON  
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 1. VOLUME OF TIMBER BY SPECIES AND OWNERSHIP CLASS  
DATA CORRECTED TO JANUARY 1, 1936

TREES 12" AND MORE IN D.B.H.  
THOUSANDS OF BOARD FEET, LOG SCALE, SCRIBNER RULE

SUR- VEY SYM- BOL	SPECIES <sup>1/</sup>	FEDERAL								TOTAL
		PRIVATE	STATE,	COUNTY	INDIAN,	PUBLIC	NATIONAL FOREST			
			AVAILABLE		TRIBAL AND		AVAILABLE	RESERVED		
			FOR		TRUST		DOMAIN	FOR	FROM	
		CUTTING			ALLOTMENT	CUTTING		CUTTING		
Y	PONDEROSA PINE	174,963	16,768	35,219	1,689,844	12,496	290,030	667	2,219,987	
LP	LOGSPOLE PINE	2,955	225	1,051	562	334	15,231	20	20,378	
DF	DOUGLAS FIR	149,927	29,797	48,550	697,141	21,185	604,438	612	1,551,650	
C	WESTERN RED CEDAR	357		78	966	25	6,535	281	8,242	
WF	LOWLAND WHITE FIR	178	3	133	2,244	24	6,776	83	9,441	
AF	ALPINE FIR	235					9,595		9,830	
WL	WESTERN LARCH	74,352	21,852	23,438	249,736	10,683	529,059	860	909,980	
ES	ENGELMANN SPRUCE	3,811	978	1,663	3,463	675	28,971	303	39,864	
BC <sup>2/</sup>	NORTHERN BLACK COTTONWOOD	878		22	3,722		500		5,122	
TOTAL		407,656	69,623	110,154	2,647,678	45,422	1,491,135	2,826	4,774,494	

<sup>1/</sup> SPECIES NOT LISTED HERE WHICH OCCUR IN THE COUNTY, BUT IN NEGLIGIBLE QUANTITIES, ARE WHITEBARK PINE, ROCKY MOUNTAIN RED CEDAR (JUNIPERUS SCOPULORUM), WESTERN WHITE SPRUCE, ALDER, AND BIRCH.

<sup>2/</sup> ADDITIONAL VOLUMES DETERMINED IN CORDS (A) NORTHERN BLACK COTTONWOOD 600 CORDS (B) ASPEN 1,000 CORDS.

FOREST STATISTICS FOR FERRY COUNTY, WASHINGTON  
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 2. AREA, IN ACRES, OF ALL FOREST COVER TYPES, BY OWNERSHIP CLASS  
DATA CORRECTED TO JANUARY 1, 1936

SUR- VEY TYPE NO.	TYPE DEFINITION	PRIVATE	STATE, AVAILABLE FOR CUTTING	COUNTY	INDIAN, TRIBAL AND TRUST ALLOTMENT	FEDERAL			TOTAL
						PUBLIC DOMAIN	NATIONAL FOREST AVAILABLE FOR CUTTING	RESERVED FROM CUTTING	
5 <sup>1</sup> / <sub>2</sub>	WOODLAND: PONDEROSA PINE WOODLAND: SCATTERED STANDS OF MATURE PONDEROSA PINE ON UNFAVORABLE SITES	7,010	140	1,420	30,020	585	2,060		41,255
20	PONDEROSA PINE: FORESTS CONTAINING 50% OR MORE OF PONDEROSA PINE PONDEROSA PINE, LARGE: FORESTS CONTAINING 50 TO 80% OF PONDEROSA PINE, MORE THAN 22" DBH	9,740	1,875	2,455	148,445	1,235	28,855	170	192,775
20.5	PURE PONDEROSA PINE, LARGE: FORESTS CONTAINING 80% OR MORE OF PONDEROSA PINE, MORE THAN 22" DBH	10,275	670	2,385	142,100	410	10,110		165,950
21	PONDEROSA PINE, SMALL: 12 TO 22" DBH	29,870	1,115	4,325	57,090	1,765	6,545		100,710
22	PONDEROSA PINE SEEDLINGS, SAPLINGS, AND POLES: LESS THAN 12" DBH PINE MIXTURE: MIXED FORESTS CONTAINING 20 TO 50% OF PONDEROSA PINE	11,875	360	2,270	4,930	590	465		20,490
27	PINE MIXTURE, LARGE: 12" OR MORE DBH	9,830	1,145	3,195	71,360	790	27,175	5	113,500
28	PINE MIXTURE, SMALL: LESS THAN 12" DBH	14,870	900	3,565	8,305	1,395	3,475		32,510
7	DOUGLAS FIR: FORESTS CONTAINING 60% OR MORE OF DOUGLAS FIR DOUGLAS FIR, SMALL OLD GROWTH: 22 TO 40" DBH	760	350	385	6,195	160	2,910		10,760
8	DOUGLAS FIR, LARGE SECOND GROWTH: 22 TO 40" DBH	3,785	1,300	1,440	14,005	625	18,345		39,500
9A	DOUGLAS FIR, LARGE POLES: 12 TO 20" DBH	11,730	2,045	4,400	4,200	2,170	31,205		55,750
9B	DOUGLAS FIR, SMALL POLES: 6 TO 10" DBH	5,170	450	1,590	1,000	1,150	8,415		17,775
10	DOUGLAS FIR, SEEDLINGS AND SAPLINGS: LESS THAN 6" DBH	2,910	680	800	420	355	2,350		7,515
19A	WESTERN RED CEDAR: FORESTS CONTAINING 40% OR MORE OF WESTERN RED CEDAR WESTERN RED CEDAR, POLES: 12 TO 24" DBH						85		85
19B	WESTERN RED CEDAR, SEEDLINGS AND SAPLINGS: LESS THAN 12" DBH						140		140
27 <sup>1</sup> / <sub>2</sub>	UPPER-SLOPE MIXTURE: MIXED FORESTS OF WESTERN LARCH, DOUGLAS FIR, ENGELMANN SPRUCE WHITE FIR, ALPINE FIR, OR LODGEPOLE PINE; OCCASIONALLY OTHER SPECIES	11,925	3,480	3,885	33,680	2,030	111,930	125	167,055
28 <sup>1</sup> / <sub>2</sub>	UPPER-SLOPE MIXTURE, LARGE: 12" OR MORE DBH UPPER-SLOPE MIXTURE, SMALL: LESS THAN 12" DBH	7,540	1,210	2,650	23,800	970	87,690	35	123,895
25	LODGEPOLE PINE: FORESTS CONTAINING 50% OR MORE OF LODGEPOLE PINE LODGEPOLE PINE, LARGE: 12" OR MORE DBH	205	5				140		350
26	LODGEPOLE PINE, MEDIUM: 6 TO 10" DBH	45	45	85	1,740	35	15,820		17,770
26A	LODGEPOLE PINE, SMALL: LESS THAN 6" DBH	885	35	310	19,230	160	48,805	90	69,515
31.5	HARDWOOD: FORESTS CONTAINING 50% OR MORE OF NORTHERN BLACK COTTONWOOD AND ASPEN HARDWOODS, LARGE: 12" OR MORE DBH	135		15	430	5			585
31	HARDWOODS, SMALL: LESS THAN 12" DBH	205		15	580				800
33	SUBALPINE: FORESTS AT UPPER LIMITS OF TREE GROWTH, USUALLY UNMERCHANTABLE NONRESTOCKED CUTOVERS: LOGGED AREAS NOT SATISFACTORILY RESTOCKED AND NOT CARRYING A RESIDUAL STAND OF 1 M OR MORE PER ACRE	175			190		5,080		5,445
35A	CUT SINCE BEGINNING OF 1920	4,000	190	300	255	180	1,435		6,360
35B	CUT BEFORE 1920	95		105					200
37	DEFORESTED AREAS: NONRESTOCKED AREAS DEFORESTED OTHERWISE THAN BY CUTTING DEFORESTED BURNS	2,260	1,570	1,025	8,865	630	8,935		23,285
38	NONCOMMERCIAL ROCKY AREAS	6,495	1,110	2,180	27,140	3,565	30,985		71,475
TOTALS FOR FOREST LAND		151,790	18,675	38,800	603,980	18,805	452,975	425	1,285,450
1 & 2	NONFOREST LAND: CULTIVATED, GRASS, SAGEBRUSH, BARRENS, CITIES, UNMENCEDERED WATER SURFACES, ETC.	72,125	2,275	11,845	45,340	4,185	9,935		145,705
TOTALS FOR COUNTY		223,915	20,950	50,645	649,320	22,990	462,910	425	1,431,155

FOREST STATISTICS FOR FERRY COUNTY, WASHINGTON  
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 3. AREA, IN ACRES, OF GENERALIZED FOREST TYPES, BY OWNERSHIP CLASS  
DATA CORRECTED TO JANUARY 1, 1936

TYPE DEFINITION	FEDERAL								TOTAL
	PRIVATE	STATE,		COUNTY	INDIAN,		NATIONAL FOREST		
		AVAILABLE	FOR		TRIBAL AND	PUBLIC	AVAILABLE	RESERVED	
					ALLOTMENT		CUTTING	CUTTING	
HARDWOODS: COTTONWOOD AND ASPEN									
SURVEY TYPES 31 AND 31.5	340			30	1,010	5			1,385
PONDEROSA PINE 12" OR MORE DBH									
SURVEY TYPES 5½, 20, 20.5, 21, AND 27	66,725	4,945	13,780	449,015	4,785	74,765		175	614,190
PONDEROSA PINE LESS THAN 12" DBH									
ON CUTOVER AREAS	25,285	1,210	5,430	2,660	1,685	1,535			37,805
ON OLD BURNS	1,460	50	405	10,575	300	2,405			15,195
TOTAL	26,745	1,260	5,835	13,235	1,985	3,940			53,000
CONIFERS 12" OR MORE DBH OTHER THAN PONDEROSA PINE									
AND LODGEPOLE PINE									
SURVEY TYPES 7, 8, 9A, 19A, AND 27½	28,200	7,175	10,110	58,080	4,985	164,475		125	273,150
CONIFERS LESS THAN 12" DBH OTHER THAN PONDEROSA									
ON CUTOVER AREAS	9,755	895	3,475	165	1,610	3,215			19,115
PINE AND LODGEPOLE PINE									
ON OLD BURNS	5,865	1,445	1,565	25,055	865	95,380		35	130,210
SURVEY TYPES 9B, 10, 19B, AND 28½	15,620	2,340	5,040	25,220	2,475	98,595		35	149,325
TOTAL									
LODGEPOLE PINE 12" OR MORE DBH									
SURVEY TYPE 25	205	5				140			350
LODGEPOLE PINE LESS THAN 12" DBH									
SURVEY TYPES 26 AND 26A	930	80	395	20,970	195	64,625		90	87,285
NONCOMMERCIAL AREAS									
SURVEY TYPES 33 AND 38	6,670	1,110	2,180	27,330	3,565	36,065			76,920
NONRESTOCKED CUTOVER AREAS AND DEFORESTED BURNS									
SURVEY TYPES 35A, 35B, AND 37	6,355	1,760	1,430	9,120	810	10,370			29,845
TOTALS FOR FOREST LAND	151,790	18,675	38,800	603,980	18,805	452,975		425	1,285,450
NONFOREST LAND									
SURVEY TYPES 1 AND 2	72,125	2,275	11,845	45,340	4,185	9,935			145,705
TOTALS FOR COUNTY	223,915	20,950	50,645	649,320	22,990	462,910		425	1,431,155

FOREST STATISTICS FOR FERRY COUNTY, WASHINGTON  
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 4. AREA OF FOREST LAND, BY SITE QUALITY  
DATA CORRECTED TO JANUARY 1, 1936

TYPE	SITE QUALITY CLASS <sup>1/</sup>	ACRES	AREA			
			PERCENTAGE OF---			
			CONIFEROUS :			
			FOREST LAND :	TOTAL	TOTAL	
			CLASSIFIED :	FOREST	AREA OF	
AS TO SITE :	LAND <sup>2/</sup>	COUNTY				
QUALITY :						
PONDEROSA PINE AND PONDEROSA PINE MIXTURE	PONDEROSA PINE	III :	10,700 :	0.9 :	0.8 :	0.7
		IV :	528,015 :	44.0 :	40.9 :	36.9
		V :	143,555 :	12.0 :	11.4 :	10.1
		VI :	2,080 :	0.2 :	0.2 :	0.1
		:	684,350 :	57.1 :	53.3 :	47.8
DOUGLAS FIR, CEDAR, AND UPPER-SLOPE MIXTURE	DOUGLAS FIR	III :	3,010 :	0.3 :	0.2 :	0.2
		IV :	305,495 :	25.4 :	23.7 :	21.5
		V :	205,450 :	17.2 :	16.0 :	14.3
		:	513,955 :	42.9 :	39.9 :	36.0
		TOTAL	:	1,198,305 :	100.0 :	93.2 :
		:	:	:	:	
LODGEPOLE PINE <sup>3/</sup>	:	8,805 :	:	0.7 :	0.6	
NONCOMMERCIAL ROCKY AREAS	:	71,475 :	:	5.6 :	5.0	
SUBALPINE <sup>4/</sup>	:	5,480 :	:	0.4 :	0.4	
HARDWOOD	:	1,385 :	:	0.1 :	0.1	
TOTAL	:	87,145 :	:	6.8 :	6.1	
		:	:	:	:	
GRAND TOTAL	:	1,285,450 :	:	100.0 :	89.9	

- 1/ THE "SITE QUALITY" OF A FOREST AREA IS ITS RELATIVE PRODUCTIVE CAPACITY, DETERMINED BY CLIMATIC, SOIL, TOPOGRAPHIC, AND OTHER FACTORS. THE INDEX OF SITE QUALITY IS THE AVERAGE HEIGHT OF THE DOMINANT STAND AT THE AGE OF 100 YEARS. SIX SITE QUALITY CLASSES ARE RECOGNIZED FOR PONDEROSA PINE AND FIVE FOR DOUGLAS FIR, CLASS I BEING IN EACH CASE THE HIGHEST. IN THE SURVEY THE PONDEROSA PINE AND DOUGLAS FIR CLASSIFICATIONS, RESPECTIVELY, WERE USED NOT ONLY FOR TYPES OF WHICH THESE SPECIES ARE CHARACTERISTIC COMPONENTS BUT FOR OTHER TYPES FOR WHICH NO SITE QUALITY CLASSIFICATIONS HAVE BEEN DEVELOPED.
- 2/ THE COUNTY HAS A TOTAL AREA OF 1,431,155 ACRES, OF WHICH 1,285,450 ACRES (89.9 PERCENT) IS FOREST LAND AND 145,705 ACRES (10.1 PERCENT) IS NONFOREST LAND.
- 3/ EXCLUSIVE OF 78,830 ACRES OF LODGEPOLE PINE TYPE AREA WHICH WAS ASSIGNED PONDEROSA PINE OR DOUGLAS FIR SITE QUALITIES.
- 4/ INCLUDES 35 ACRES OF DEFORESTED BURN.

# FOREST STATISTICS FOR FERRY COUNTY, WASHINGTON

FROM INVENTORY PHASE OF FOREST SURVEY

FIGURE 2. DISTRIBUTION OF SAW-TIMBER VOLUME BY SPECIES AND OWNERSHIP CLASS (FROM TABLE 1)

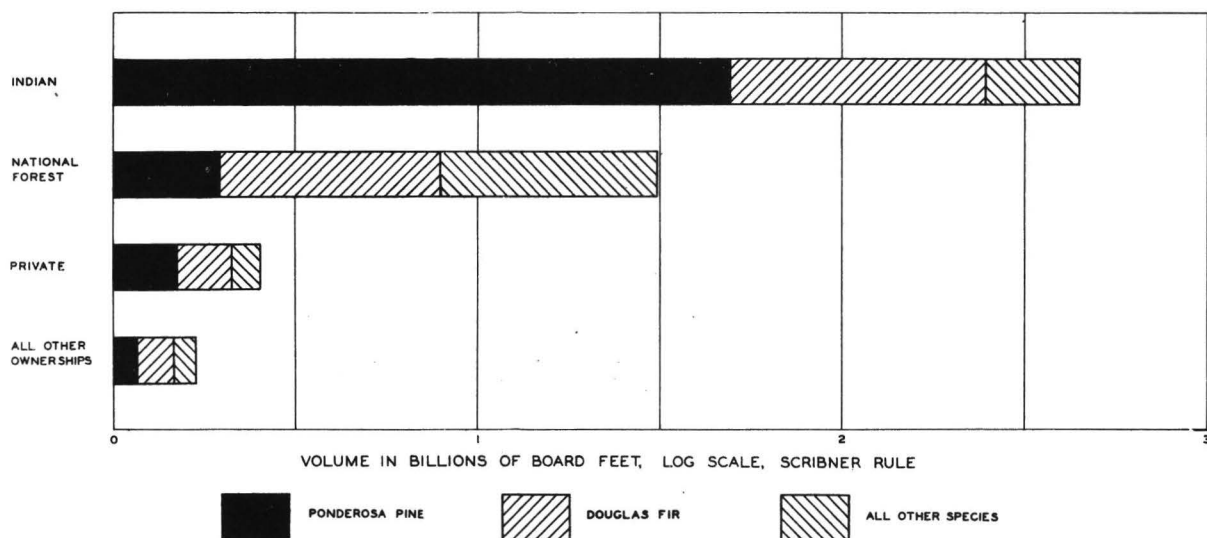


FIGURE 3. OWNERSHIP OF FOREST LAND (FROM TABLE 2)

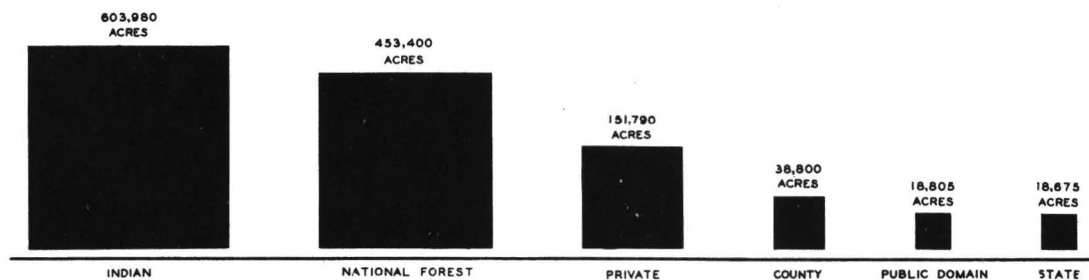


FIGURE 4. DISTRIBUTION OF FOREST LAND BY GENERALIZED TYPES, ALL OWNERSHIP CLASSES (FROM TABLE 3)

